



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,793	07/20/2006	Tatsuo Tanaka	KOT-0229	9053
23413	7590	05/21/2009		
CANTOR COLBURN, LLP			EXAMINER	
20 Church Street			HO, ANTHONY	
22nd Floor				
Hartford, CT 06103			ART UNIT	PAPER NUMBER
			2815	
			NOTIFICATION DATE	DELIVERY MODE
			05/21/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

[usptopatentmail@cantorcolburn.com](mailto:usptopatentmail@cantorcolburn.com)

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/586,793	TANAKA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	ANTHONY HO	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 15 April 2009.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-10 and 13 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,5-10 and 13 is/are rejected.  
 7) Claim(s) 2-4 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

This is in response to amendment to application no. 10/586,793 filed on April 15, 2009.

Claims 1-10 and 13 are presented for examination.

Claims 11 and 12 have been cancelled.

### ***Claim Objections***

Claim 9 is objected to because of the following informalities: Claim 9 recites "moiety represented by Formula (1), (1-1), (1-2)..." in lines 2-3 of claim 9. For examination purposes, please delete (1-1), (2-1), (3-1) and (4-1). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 9 recite "A<sup>1</sup> and A<sup>2</sup> each independently represent a unit having an alkyl group as a substituent." However, it is unclear what this "unit" is. Thus, one of ordinary skill in the art would not be able to define the metes and bounds of the claimed invention.

Claim 1 recites “a compound having a substructure,” however it is unclear what the rest of the compound is made of (i.e. what else is in the compound?). The part of the compound that is known is the claimed substructure. Thus, one of ordinary skill in the art would not be able to define the metes and bounds of the claimed invention.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5-9 and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamamoto et al (JP 09-077854).

In re claims 1, 5 and 9, Yamamoto et al discloses an organic semiconductor material comprising a compound represented by Formula (10) with B is represented by Formula (11) (it is obvious to one of ordinary skill in the art to modify Formula (11) with Formula (12) and Formula (13) since they are obvious variants of Formula (11)) (i.e. Chemical Formulas 1-16).

In re claims 6-7, Yamamoto et al discloses the use of the organic semiconductor for a transistor (i.e. paragraph 0012). It is well known in the art that a field effect transistor contains a gate electrode and a current can be controlled by an application of a voltage.

In re claim 8, the recitation “a switching element” in the claim preamble specifies an intended use or field of use and is treated as nonlimiting since it has been held that in device claims, intended use must result in a structural difference between the claim invention and the prior art in order to patentably distinguish the claim invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. *In re Casey*, 152 USPQ 235 (CCPA 1967); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

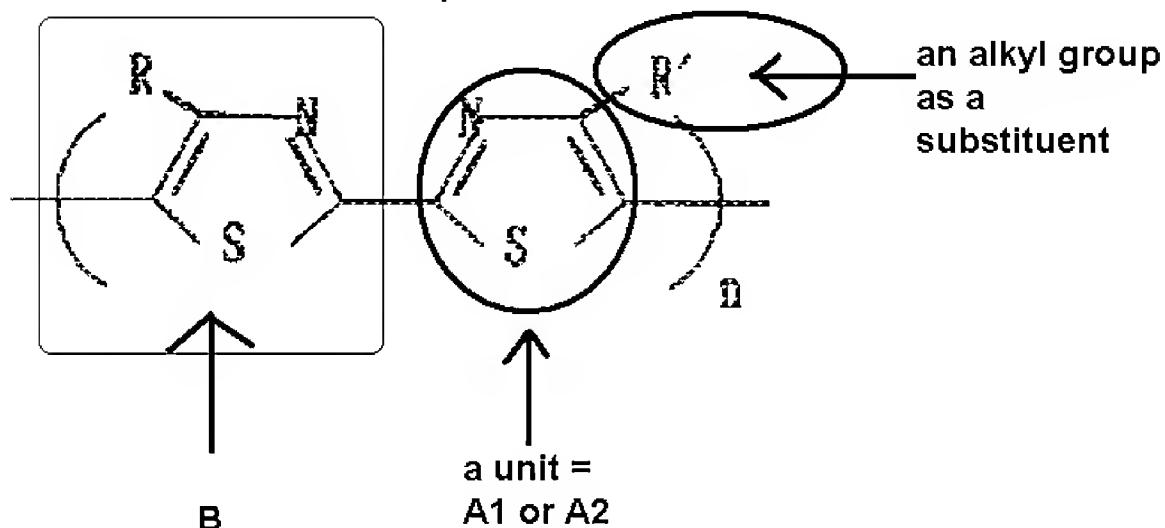
In re claim 10, Yamamoto et al discloses the compound having the thiazole moiety is a polymer (i.e. paragraph 0024).

In re claims 13, Yamamoto et al discloses the thiazole moiety comprises an alkyl group (i.e. paragraph 0016).

### ***Response to Arguments***

Applicant's arguments filed April 15, 2009 have been fully considered but they are not persuasive.

In response to applicant's argument against Yamamoto, see figure below.



In addition, applicant contends that Yamamoto does not disclose that B can be an unsubstituted thiazole ring, however the Abstract in Yamamoto discloses that the R in the above figure can be hydrogen (i.e. see Abstract). Thus, Yamamoto teaches that B can be an unsubstituted thiazole ring.

***Allowable Subject Matter***

Claims 2-4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY HO whose telephone number is (571)270-1432. The examiner can normally be reached on M-Th: 10:30AM-9:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. H./

Application/Control Number: 10/586,793  
Art Unit: 2815

Page 7

Examiner, Art Unit 2815  
/Kenneth A Parker/  
Supervisory Patent Examiner, Art Unit 2815